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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/590,947

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Matthias Gut

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FITCH, EVEN, TABIN & FLANNERY
P. O. BOX 18415
WASHINGTON, DC 20036

EXAMINER

WANG, JACK K

ART UNIT

PAPER NUMBER

4154

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03/25/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/590,947	Applicant(s) GUT ET AL.	
	Examiner JACK WANG	Art Unit 4154	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>5/2/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The subject matter of this application admits of illustration by a drawing to facilitate understanding of the invention. Applicant is required to furnish a drawing under 37 CFR 1.81(c). No new matter may be introduced in the required drawing. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d).

Specification

2. The abstract of the disclosure does not commence on a separate sheet in accordance with 37 CFR 1.52(b)(4). A new abstract of the disclosure is required and must be presented on a separate sheet, apart from any other text.

3. The disclosure is objected to because of the following informalities: inconsistent use of term "the markings (3)" (Page 7 line 10) and "the markings 3" (Page 6 line 18 and 21). Appropriate correction is required.

Claim Rejections - 35 USC § 112

Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 6 recites the limitation "deviation from the calculated direction of travel" in the method as claimed. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1, 2, 6, and 8-11 are rejected under 35 U.S.C. 102(e) as being anticipated by Kaufmann et al. (Pub # US 2004/0262063 A1).

Consider claim 1, Kaufmann et al. clearly shown and discloses a method for monitoring the condition of a vehicle driver, in which a vehicle's position in a lane is detected and monitored [0022 lines 3-12], a direction of travel (position) is determined, the actual position in the lane is compared with the direction of travel which is determined [0028 lines 6-12], and the driver is assisted in maintaining the position in the lane, characterized in that a warning signal audio warning and/or tactic feedback warnings) [0018 lines 5-10] for the driver is generated when the calculated direction of travel exactly matches the actual position in the lane over a pre-specified period of time(prescribed time interval) [0028 lines 12-18].

Consider claim 2, Kaufmann et al. clearly shown and discloses the method, characterized in that a visual and/or audible and/or haptic warning signal is generated [0004 lines 1-3].

Consider claim 6, Kaufmann et al. clearly shown and discloses the method, characterized in that driver assistance for staying in the lane increases dynamically with the deviation from the calculated direction of travel [0018 lines 5-19].

Consider claim 8, Kaufmann et al. clearly shown and discloses a condition-monitoring device (lane departure warning system) (110, Fig. 2) comprising a lane-identification device (lane tracking system) (112, Fig. 2), means for determining a direction of travel, a monitoring device (camera, auxiliary sensors, dynamic sensors) for monitoring deviations from the direction of travel [0022 lines 3-12], and a warning device (audio warning and/or tactic feedback warnings) [0018 lines 5-10], characterized in that the warning device can be activated when the monitoring device detects that a specific direction of travel matches an actual direction of travel over a pre-specified period of time (prescribed time interval) [0028 lines 12-18].

Consider claim 9, Kaufmann et al. clearly shown and discloses the condition-monitoring device, characterized in that a "steer-by-wire" system is provided [0017 lines 1-4].

Consider claim 10 and 11, Kaufmann et al. clearly shown and discloses the condition-monitoring device, characterized in that a manual torque actuator (torque nudges) is provided [0018 lines 12-16].

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 3 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaufmann et al. (Pub # US 2004/0262063 A1).

Consider claim 3, Kaufmann et al. teaches similar invention except the method, characterized in that a test signal, which depends on the driving situation, is added to the calculated direction of travel, and the warning signal is emitted when the vehicle follows the test signal.

Although Kaufmann et al. does not specifically disclose the claimed test signal, which depends on the driving situation. He does disclose a torque nudges which operates in the helper (assist) mode. This application will cause the vehicle to dart back and forth between lanes. This method is desirable to determine if the driver is in fact holding the wheel [0018 lines 12-19]. Since the Kaufmann et al. discloses a method in one of many viable methods of determining driver alertness, it would have been obvious to one of ordinary skill in the art at time of the invention to use well known torque nudges that will determine whether a driver is vigilant and trigger the warning signal, which the selection of test signal are design choice for the particular application.

Consider claim 7, Kaufmann et al. teaches similar invention except the method, characterized in that driver assistance for staying in the lane is slowly withdrawn when no lane is identified.

Although Kaufmann et al. does not specially disclose the claimed that drive assistance for staying in the lane is slowly withdrawn when no lane is identified. He does disclose an autonomous mode the system is enable after the operator has

maintained the vehicle within the tolerance band from the lane center for a selected period. Since the operator has maintained the vehicle within the tolerance band, there will be no detection of lane mark, then the autonomous mode will be activate then the driver assistance will slowly withdrawn for the ease and comfort of driving. Therefore, , it would have been obvious to one of ordinary skill in the art at time of the invention to use well known method of employ the autonomous mode to slowly withdrawn the driver assistance, which the selection of the method are design choice for the particular application.

8. Claim 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaufmann et al. (Pub # US 2004/0262063 A1) as applied to claim 1 above, and further in view of Kawazoe et al. (Pub # US 2002/0013647 A1).

Consider claim 4, Kaufmann et al. teaches similar invention except the method, characterized in that a deviation from the calculated direction of travel is determined, and the steering angle at which the steering wheel has to be steered to stay in the lane or to move into the lane is determined.

In the same field of endeavor, Kawazoe et al. teaches the method, characterized in that a deviation from the calculated direction of travel is determined (a steering angle sensing section to sense an actual steering angle of the vehicle), and the steering angle at which the steering wheel has to be steered to stay in the lane or to move into the lane is determined (a steering torque controlling section to set the target steering torque required for the controlled vehicle to follow the lane) [0009] for the benefit of controlling vehicle in lane based on actual input of the situation.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the method, characterized in that a deviation from the calculated direction of travel is determined, and the steering angle at which the steering wheel has to be steered to stay in the lane or to move into the lane is determined as shown in Kawazoe et al., in Kaufmann et al. device for the benefit of controlling vehicle in lane based on actual input of the situation.

Consider claim 5, Kaufmann et al. teaches similar invention except the method, characterized in that a manual torque actuator shifts the zero position of the steering torque by the determined steering angle.

In the same field of endeavor, Kawazoe et al. teaches the method, characterized in that a manual torque actuator shifts the zero position (neutral position) of the steering torque by the determined steering angle [0010] for the benefit of limiting the steering torque to maintain vehicle in lane.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the method, characterized in that a manual torque actuator shifts the zero position of the steering torque by the determined steering angle as shown in Kawazoe et al., in Kaufmann et al. device for the benefit of limiting the steering torque to maintain vehicle in lane.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Nordstrom (US Patent # 5,057,834) "Method and device for monitoring the steering performance of vehicle operation".
- b. Sandano et al. (Pub # US 2002/0040265 A1) "Driver assistance system for a vehicle".
- c. Ikegaya et al. (US Patent # 6,308,123 B1) "Vehicle steering control system".
- d. Iwazaki et al. (US Patent # 7,069,129 B2) "Driving support system and method".

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jack K. Wang whose telephone number is 571-272-1938. The examiner can normally be reached on M-F 7:30AM - 5:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Angela Ortiz can be reached on 571-272-1206. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JKW/

/Angela Ortiz/

Supervisory Patent Examiner, Art Unit 4154